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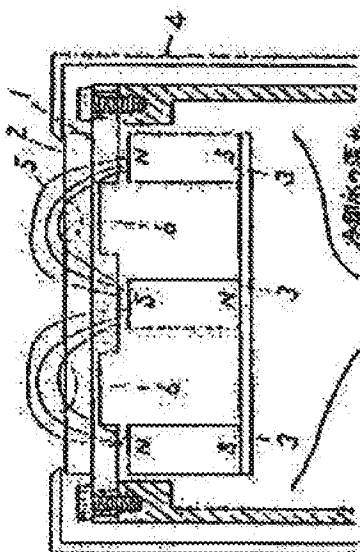
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(54) MAGNETRON SPUTTERING DEVICE



(57)Abstract:

PURPOSE: To prevent the cracking of a target and to increase the film forming rate with a high-power discharge by enlarging a cooling surface area in the region corresponding to the erosion part of a target on the rear of a backing plate for contact-fixing the target.

CONSTITUTION: In a shield ring 4, the target 2 is contact-fixed to one side of the backing plate 1, a magnet 3 is arranged on the rear side, and the target 2 is sputtered. In the magnetron sputtering device, plasma is highly densified by the magnetic field 5 of the magnet 3, and a recess 6, etc., are formed in the region on the rear of the backing plate 1 corresponding to the part of the target 2 to be mainly eroded.

The contact surface area of the backing plate 1 with a cooling medium is made larger than the other region by the recess 6, etc. As a result, the temp. distribution of the whole target 2 is uniformized, and the cracking due to the heavy-current discharge is prevented.